

in patients with patellar instability, and this distance correlates with measurements of trochlear dysplasia. While further studies are needed to determine the significance of APTTTG distance, these findings suggest that the anterior-posterior relationship between the trochlea and tuberosity may be a factor to consider when planning for tibial tuberosity osteotomy in patients with trochlear dysplasia.

A Novel Non-Operative Protocol for the Acute Management of In-Season Acromioclavicular Separations

SS-24

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Introduction: Acromioclavicular (AC) joint separations are a common injury in contact athletes. Historically, treatment of these acute injuries have focused on rest, sling immobilization, anti-inflammatory medication, and a gradual return to sporting activities. We have developed a novel treatment protocol utilizing a corticosteroid injection and a static scapular retraction and stabilization brace to anatomically reduce the AC joint and safely and quickly return these athletes to the playing arena.

Methods: Data was prospectively collected and retrospectively reviewed on the in-season management of all football acromioclavicular separations at an NCAA division I university. Inclusion criteria were all consecutive in-season AC separations sustained during football activities that requiring medical attention. Exclusion criteria include fractures, glenohumeral dislocations, rotator cuff tears, nerve injuries, other concomitant shoulder injuries, and injuries sustained during the last game of the season. The end points measured were number of games missed and time to full return to play.

Results: During seven football seasons (2008-2014), 56 acromioclavicular separations occurred. Fifty-two are included in the current study. Full return to play averaged 5.7 days (range 0-31 days), and athletes missed 0.25 games (range 0-3 games). Quarterbacks missed the most time. After an AC separation to the throwing shoulder, the quarterback missed a mean 26 days (range 22-31 days) and 3 games. After an AC separation to the non-throwing shoulder, the quarterback missed a mean 7.3 days (range 4-9 days) and 0.6 games (range 0-1 games).

Conclusion: This study describes a specific non-operative protocol for in-season management of AC injuries. The unique aspect of this protocol is the use of a static, 3-point brace to rotate and reduce the entire forequarter back to the clavicle, utilizing fracture reduction principals. This anatomically reduces the AC joint, alleviates pressure on

the rotator cuff, and allows athletes to safely and quickly return to play.

Long Head of the Biceps Tenotomy and Tenodesis: Does Technique, Location, or Implant Influence Outcomes and Complications?

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Introduction: Surgical treatment of long head of the biceps tendon (LHBT) lesions due to pain or structural damage (partial tear, dislocation) is controversial. Post-operative complications including cosmetic "Popeye" deformity, biceps cramping, biceps weakness, persistent anterior shoulder pain, and proximal humerus fracture have been reported with these techniques. We present the largest series of surgical LHBT procedures and analyze their complications.

Methods: Records of patients who underwent a LHBT tenotomy +/- tenodesis at an integrated health care system by 84 surgeons were retrospectively analyzed. Inclusion criteria were patients who underwent a shoulder arthroscopic procedure where the LHBT was surgically released. Exclusion criteria included revision tenodesis, arthroplasty, neoplastic, or fracture surgery, age below 18, or incomplete data. Fixation methods, location of tenodesis, as well as indication for LHBT procedure (anterior shoulder pain versus structural), and post-operative complications were recorded.

Results: 1635 patients (1722 shoulders) were included. 1132 patients were male (69%). The average age was 54.5 years (range from 18-91). The average follow-up duration was 10.8 months. Biceps related complications are summarized in Table 1. 18 (1.04%) nerve injuries were encountered, which all completely resolved. Subpectoral tenodesis techniques had a significantly higher rate nerve injury ($p = 0.016$). One subpectoral tenodesis (0.12%) with a unicortical button and a 3.2mm tunnel suffered a proximal humerus fracture. Open and mini-open techniques demonstrate a significantly higher rate of superficial infection compared with arthroscopic techniques (2.32% versus 0.60%, $p = 0.029$).

Conclusion: We present the largest study analyzing LHBT procedures. While tenotomy and tenodesis provide reliable pain relief, we found no difference in persistent post-operative anterior shoulder pain between tenotomy versus tenodesis, regardless of whether the technique left the LHBT in the groove or not. However, tenotomy had a significantly higher rate of biceps related post-operative complications compared with tenodesis. The overall nerve injuries were low and all recovered.